

I. Distal Radius Fractures:

Classification:

A) Adults: -Colles -Smith -Barton (intra-articular)

B) Children: -Distal radial epiphysis -Distal radial metaphysis

1-Colles' Fracture:

-Fracture of the distal inch of radius

♦Fracture of distal 1cm → Styloid # (Chauffeur's #) / Fracture of distal third →Galeazzi

-It is the most common of all fractures in older people, high incidence in postmenopausal osteoporosis

-Mechanism of injury:

Fall on outstretched hand → fractures at the cortico-cancellous junction

The distal fragment → upward (impacted), backward & radial tilt

-Clinical: Dinner fork deformity: prominence on the back of the wrist and a depression in front

-Treatment:

Aim: Anatomical reduction + preserving the function (early mobilization)

▪Undisplaced: Conservative → well-padded below elbow cast + follow up with x-ray

▪Displaced fractures: Reduction under anesthesia (muscle relaxation - neurogenic shock prevention)

▪If there is ulnar or styloid fracture → Above elbow cast

▪If there is displaced intra-articular fracture → ORIF by K-wire or plate & screws

▪If severely comminuted fracture → Ligamentotaxis (reduction by traction on ligament by ext. fixator)

-Indications of surgery:

▪Reduction can't be maintained ▪Open # ▪Intraarticular # ▪Comminuted # ▪Associated vascular trauma

-Complications:

1-Malunion, weak grip, pain over inf. radio-ulnar joint & limited supination/pronation

2-Madelung deformity 3-Stiff wrist 4-Sudeck's deformity

5-Rupture of extensor pollicis longus tendon 6-Median nerve compression

2-Smith fracture:

-Reversed Colles' # -The distal fragment is displaced anteriorly -TTT as Colles'

3-Barton (intra-articular): TTT is only ORIF

4-Fracture of distal radius in children:

-Notice injury pattern in growing bones

-Bones tend to Bow rather than to Break

-Compression force = **Torus** (Buckle #)

-Force to side of bone may cause break in only one cortex (**Green stick**)

-Force to very young child → neither cortex may break → **Plastic deformities**

-Physeal fractures are almost invariably Salter-Harris type I or II, with the epiphysis shifted and tilted backwards and radially. Type V injuries are unusual; sometimes they are diagnosed in retrospect when premature epiphyseal fusion occurs

-Reduction in children should be done by flexion-deflexion mechanism



II. Scaphoid Fracture:

-Mechanism of injury: Nutcracker mechanism, fall on outstretched hand

-Clinical: Swollen tender anatomical snuff box

-X ray: 4 views should be done

-Treatment: Below elbow plaster cast include thumb (thumb spica)

-Complications:

1-Non union 2-AVN: → ttt: Bone graft (or vascularized bone graft if ass. with malunion)

3-Degenerative arthritis

